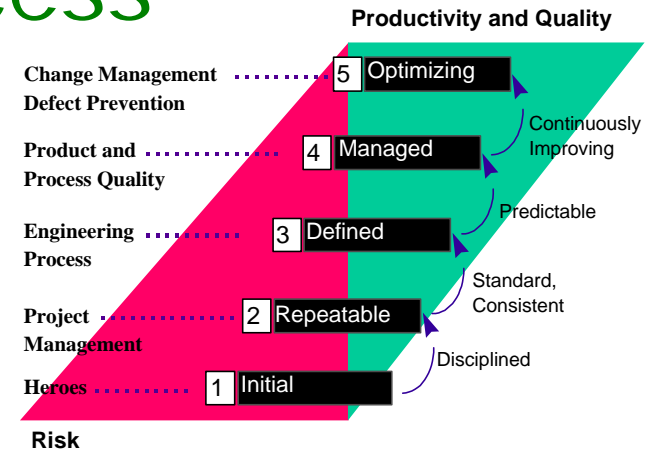# System Development Life Cycle
Executive Overview
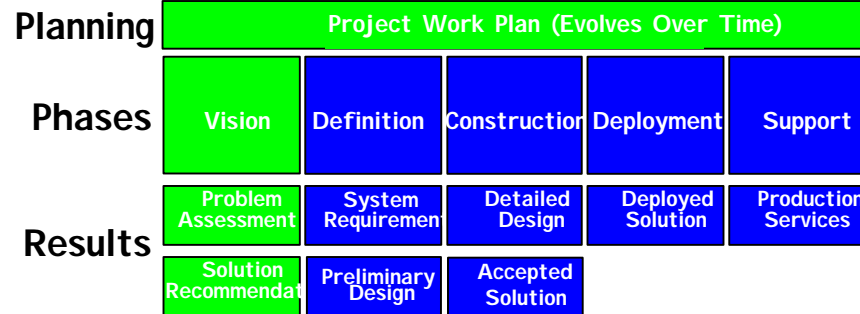
February 26, 2001

We are Building on Success
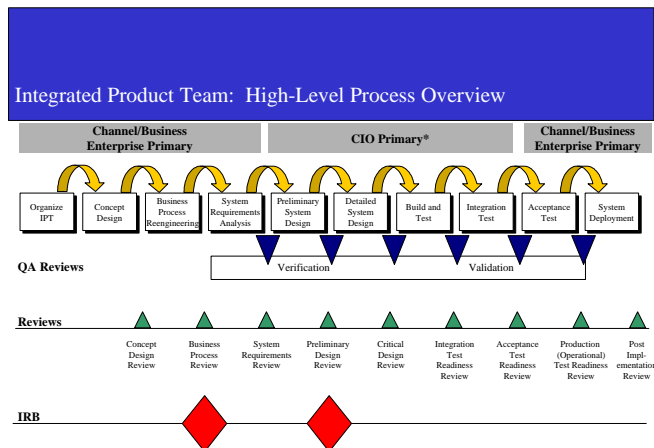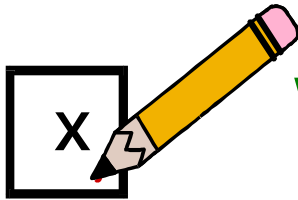
CMM

Productivity and Quality

Change Management .... **5** Optimizing
Defect Prevention

Continuously
Improving

Product and .... **4** Managed
Process Quality

Predictable

Engineering .... **3** Defined
Process

Standard,
Consistent

Project .... **2** Repeatable
Management

Disciplined

Heroes .... **1** Initial

Risk

SDLC

Planning	Project Work Plan (Evolves Over Time)				
Phases	Vision	Definition	Construction	Deployment	Support
Results	Problem Assessment	System Requirement	Detailed Design	Deployed Solution	Production Services
	Solution Recommendat	Preliminary Design	Accepted Solution		

IPT

Integrated Product Team: High-Level Process Overview

Channel/Business Enterprise Primary	CIO Primary*	Channel/Business Enterprise Primary

Organize IPT — Concept Design — Business Process Reengineering — System Requirements Analysis — Preliminary System Design — Detailed System Design — Build and Test — Integration Test — Acceptance Test — System Deployment

QA Reviews   Verification   Validation

Reviews

Concept Design Review | Business Process Review | System Requirements Review | Preliminary Design Review | Critical Design Review | Integration Test Readiness Review | Acceptance Test Readiness Review | Production (Operational) Test Readiness Review | Post Implementation Review
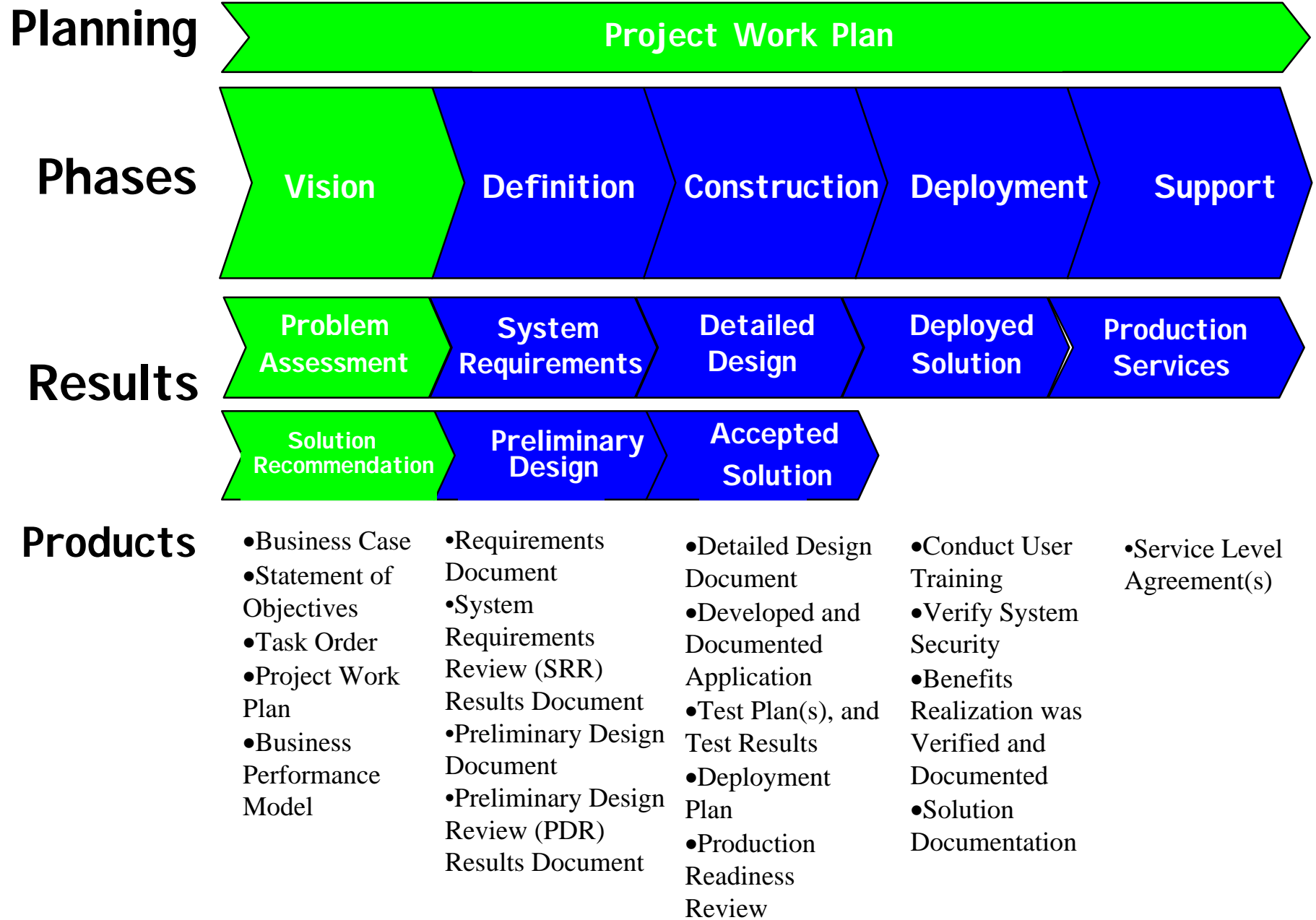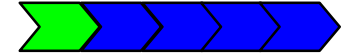
IRB

We have developed...

– SDLC Process Guide
(Intranet, CIO, Technology Handbook)

– Deployment Plan

– Executive Overview Presentation

SDLC Process

Planning	Project Work Plan				
Phases	Vision	Definition	Construction	Deployment	Support
Results	Problem Assessment	System Requirements	Detailed Design	Deployed Solution	Production Services
	Solution Recommendation	Preliminary Design	Accepted Solution		
Products	•Business Case •Statement of Objectives •Task Order •Project Work Plan •Business Performance Model	•Requirements Document •System Requirements Review (SRR) Results Document •Preliminary Design Document •Preliminary Design Review (PDR) Results Document	•Detailed Design Document •Developed and Documented Application •Test Plan(s), and Test Results •Deployment Plan •Production Readiness Review	•Conduct User Training •Verify System Security •Benefits Realization was Verified and Documented •Solution Documentation	•Service Level Agreement(s)

4

SDLC Process – Vision Phase

Objective:
- Conduct assessment of the business issue / opportunity;
- Recommend solution in a Business Case;
- Form IPT to begin planning the solution.

Entry Criteria

- Business need or opportunity identified;
- Member of the SFA Management team identified to guide and oversee the Vision Phase.

Processes/Products

- Business Case; *
- Statement of Objectives (SOO); *
- Task Order; *
- IPT Formation;
- Project Work Plan *, including
  - Budget;
  - Roles and Responsibilities;
  - Work Breakdown Structure (WBS)
  - Schedule/Resources;
  - Risk Management Plan;
  - Quality Management Plan;
  - Communications Plan;
  - Configuration Management Plan;
- Business Performance Model; * and
- Project Status Reports.*

* Sample provided in Process Guide

Exit Criteria

- Business Case has been developed and approved by IRB;
- SOO has been issued;
- Task Order has been awarded;
- IPT has been formed;
- Business Performance Model and Project Work Plan have been developed by IPT and approved by Executive Sponsor.

Groups Involved

Investment Review Board (IRB)	Integrated Product Team (IPT)	IT Representative
Decision Support Group (DSG)	CIO ECAD	Subject Matter Experts (SME)
Executive Sponsor	CIO IT Services	System Security Officer
Executive Steering Committee	CIO IT Management	

SDLC Process – Definition Phase
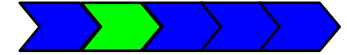
Objective:

Establish and document the requirements and designs necessary to develop, test, and deploy the solution that will provide the benefits as outlined in the Business Case.

Entry Criteria

- Business Case has been developed and approved by IRB;
- SOO has been issued;
- Task Order has been awarded;
- IPT has been formed;
- Business Performance Model and Project Work Plan have been developed by IPT and approved by Executive Sponsor.

Processes/Products

- Updated Business Case; *
- Updated Project Work Plan; *
- Updated Business Performance Model; *
- Requirements Document;*
- Preliminary Design Document;* and
- Project Status Reports.*

* Sample provided in Process Guide

Exit Criteria

- Business Case, if updated, has been approved by IRB;
- Work Plan has been updated;
- Quality Plan has been approved by QA Manager;
- Business Performance Model, if updated, has been approved by Executive Sponsor;
- Requirements and Preliminary Design Documents have been developed by IPT and approved by Executive Sponsor.

Groups Involved

Executive Sponsor	CIO IT Services	Systems Security Officer
Executive Steering Committee	CIO IT Management	
IPT	ITR	
CIO ECAD	SMEs	

6

SDLC Process – Construction Phase
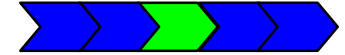
Objective:

Develop and test a solution that meets the requirements defined in the Definition Phase, as well as the approved Business Case.

Entry Criteria

- Business Case, if updated, has been approved by IRB;
- Work Plan has been updated;
- Quality Plan has been approved by QA Manager;
- Business Performance Model, if updated, has been approved by Executive Sponsor;
- Requirements and Preliminary Design Documents have been developed by IPT and approved by Executive Sponsor.

Processes/Products

- Detailed Design Document; *
- Developed, Tested and Accepted Solution, including source, object and execution code, if applicable;
- System Test Plans; *
- System Test Results; *
- Production Readiness Review (PRR) has been conducted; and
- Project Status Reports.*

* Sample provided in Process Guide

Exit Criteria

- A Detailed Design Document has been developed and approved by the Executive Sponsor;
- A developed and tested solution, including source, object, and execution code, has been accepted by the Executive Sponsor; and
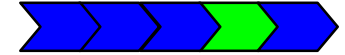- PRR has been conducted and sign-offs obtained.

Groups Involved

Executive Sponsor	CIO IT Services	Systems Security Officer
Executive Steering Committee	CIO IT Management	
IPT	ITR	
CIO ECAD	SMEs	

SDLC Process – Deployment Phase

Objective:

Deploy the developed solution into production for utilization by the user community.

Entry Criteria

- A Detailed Design Document has been developed and approved by the Executive Sponsor;
- A developed and tested solution, including source, object, and execution code, has been accepted by the Executive Sponsor; and
- PRR has been conducted and sign-offs obtained.

Processes/Products

- Deploy Solution;
- Conduct User Training;
- Service Level Agreements; and
- Project Status Reports.*

* Sample provided in Process Guide

Exit Criteria

- Solution has been successfully deployed;
- Applicable training has been conducted; and
- Arrangements have been made with the organization(s) responsible for operating and maintaining the solution (SLAs have been established).

Groups Involved

Executive Sponsor
IPT
CIO IT Services
Systems Security Officer

Executive Steering Committee

8

SDLC Process – Support Phase
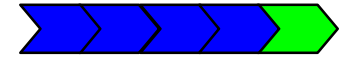
Objective:
   Provide operational and maintenance support for the deployed solution.

Entry Criteria

- Solution has been successfully deployed;
- Applicable training has been conducted; and
- Arrangements have been made with the organization(s) responsible for operating and maintaining the solution (SLAs have been established).
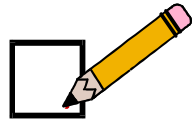
Processes/Products

- Provide operations and maintenance support to deployed solution;
- Provide performance reports to CIO for deployed solution; and
- Close IPT.

Exit Criteria

- Solution is retired

Groups Involved

Executive Sponsor
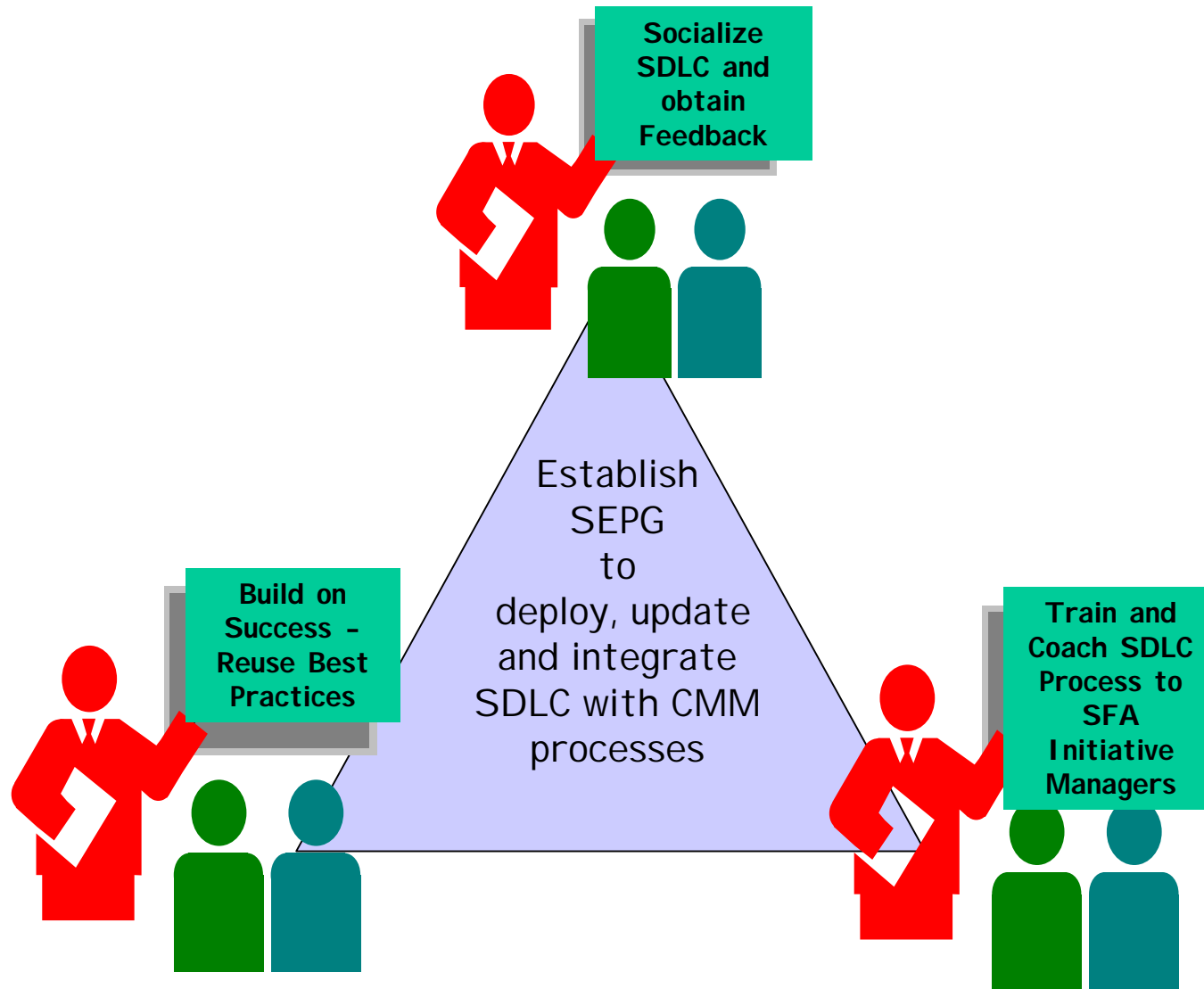CIO IT Services
Systems Security Officer

Our 2001- Planned Activities

- Deploy the SDLC Process

- Develop and deliver SDLC training
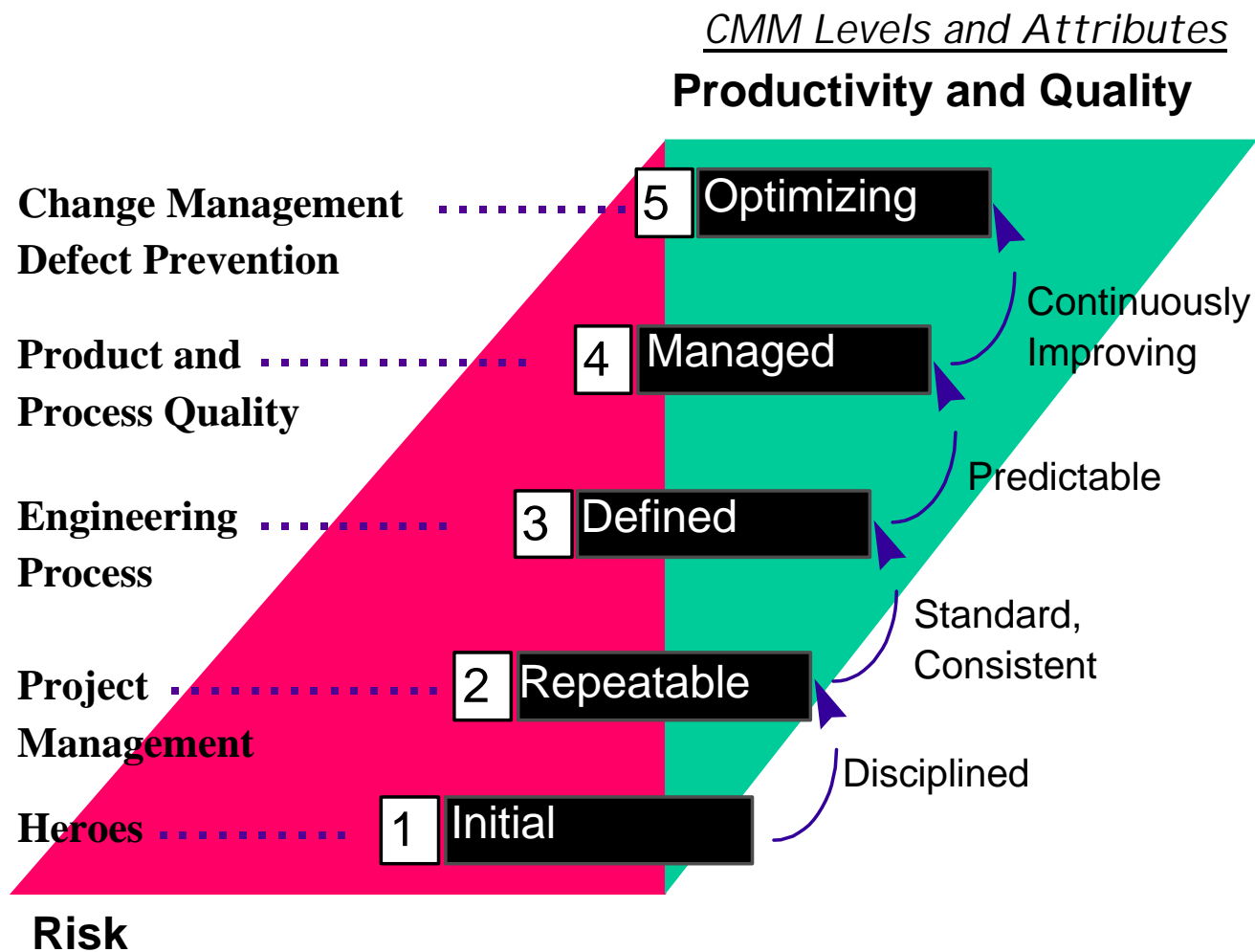
- Develop and deploy CMM processes

COD   Portal   FOTW   FMS

Deployment Approach

Socialize SDLC and obtain Feedback

Build on Success – Reuse Best Practices

Establish SEPG to deploy, update and integrate SDLC with CMM processes

Train and Coach SDLC Process to SFA Initiative Managers

11
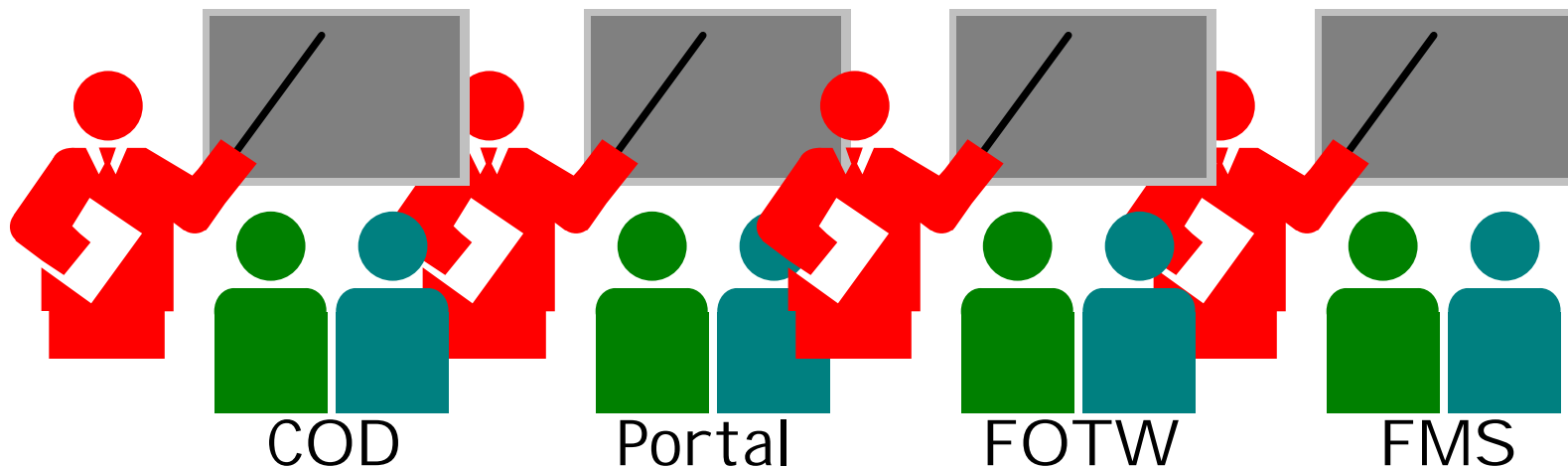
Develop and Deploy CMM Processes

Taking the Mystery out of Software Development

Benefits to <u>Your</u> Projects

- Clarified scope, requirements and delivery commitments;

- Improved predictability of development initiatives;

- Standard review framework for SDLC activities;

- Greater visibility of project progress for business owners;

- Improved quality and stability of delivered systems.

$$= \$ \rightarrow \$$$
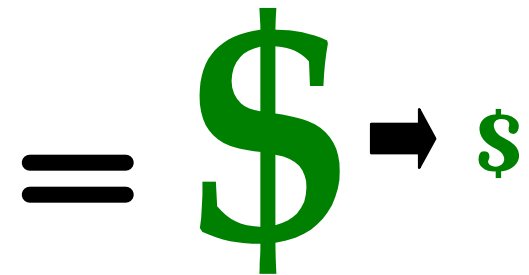
Reduced SFA
Development,
Deployment and
Maintenance Costs

We need your help!

- Sponsorship, Advocates and Champions
- Guide the pace of change for your projects
    - Determine need and applicability of the SDLC
    - Support Buy-in and adoption in project plan
- We need participation in the process improvement effort
    - SEPG membership
    - Stakeholder input and reviews
- Continuous involvement and communication

Can we count on your support?
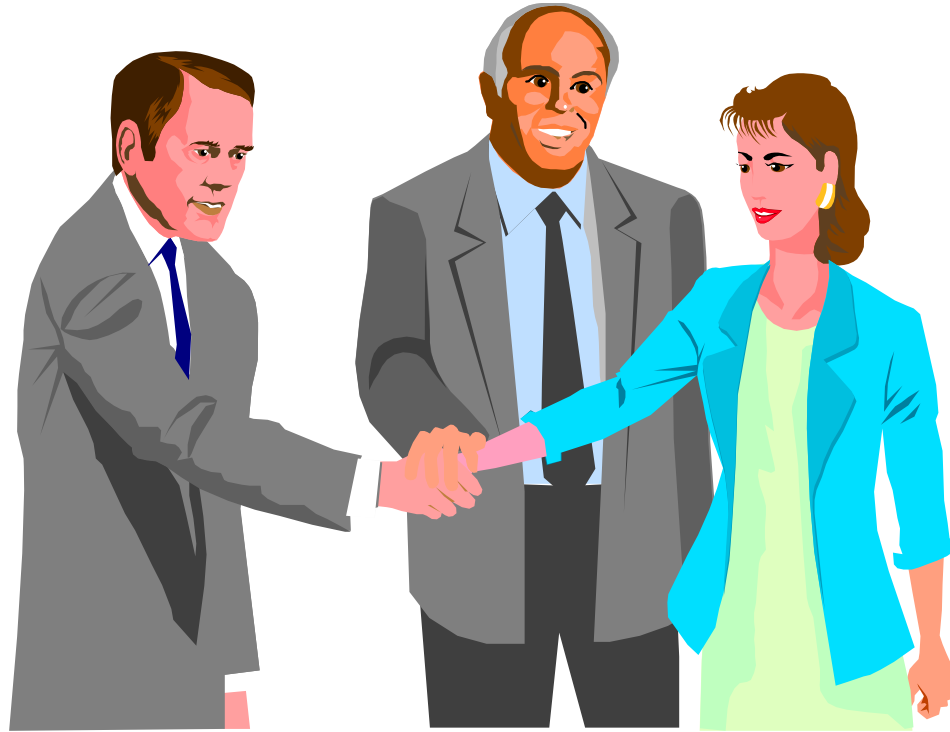
What are <u>your</u> concerns and recommendations?